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Title: Terrain Properties and Topography from Skylab Altimetry

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A preliminary analysis of two passes of SL-2 data has been completed. Pass No. 1 in Mode 1 (GT-20) acquired range lock over selected areas in the Northwest United States and because of extended search particularly in Submode 1 was prematurely terminated after Submode 1. However 19 frame range locks in submode 0 out of a total of 30, and 24 frame range locks in Submode 1 out of a total of 60 were obtained over USA terrain. The observed areas were mostly over rough terrain which made it difficult for the range tracker to acquire a unique signal. The received power fluctuated over 20 db with a σ in range fluctuations of ± 50 m. The range data were converted to range residuals relative to a geoid, and are being compared with the topography of the observed area. Initial analysis of the wave shape data and their statistical properties have begun.

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The second pass consisted of the pass 11 data in Mode 1 over the same ground track. However, only calibration data were available which showed that the altimeter was operating properly but that no terrain returns were obtained.

In the next month, comparisons between measured and computed topography of Pass 1 will be continued and relation between waveform, received power, and observed areas established.